## ABSTRACT

A probe for a probe microscope, a manufacturing method of the probe, and a probe microscope device are provided, the probe having an optically transparent substrate with high accuracy and a cantilever provided on a front surface thereof, the substrate being small in size and having an observation window function. In the probe microscope device, there are provided a probe having at least one cantilever 1202 or 1204 which is supported on the front surface of a transparent substrate 1201 or 1203 with a predetermined space therefrom, the transparent substrate 1201 or 1203 being formed of a material transparent to visible light or near-infrared light, and having an observation window function which enables optical observation and measurement while partitioning environments of the inside and the outside of a container. Accordingly, through the rear surface of the transparent substrate, the cantilever 1202 or 1204 may be optically observed or measured or is optically driven.